

Amendments to the Claims:

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of forming shallow trench isolation regions in a silicon-on-insulator layer on a buried oxide layer, the method comprising:

forming a shallow trench isolation region in the silicon-on-insulator layer with sidewalls extending to the buried oxide layer to define first and second active regions separated by the shallow trench isolation region; and

selectively depositing silicon dioxide in the shallow trench isolation region without depositing the silicon dioxide on the first and second active regions by nucleating the deposition of the silicon dioxide on the buried oxide layer.

2. (Previously Presented) The method according to claim 1, wherein the silicon dioxide is deposited by liquid phase deposition.

3. (Cancelled)

4. (Previously Presented) The method according to claim 1, further comprising:

forming a pad oxide layer on the silicon-on-insulator layer.

5. (Previously Presented) The method according to claim 4, wherein the pad oxide layer has a thickness between approximately 2 nm and approximately 10 nm.

6. (Previously Presented) The method according to claim 1, further comprising:
forming a pad nitride layer on the silicon-on-insulator layer.
7. (Previously Presented) The method according to claim 6, wherein the pad nitride layer has a thickness between approximately 10 nm and approximately 150 nm.
8. (Previously Presented) The method according to claim 1, further comprising:
cleaning the shallow trench isolation region before selectively depositing silicon dioxide.
9. (Previously Presented) The method according to claim 8, wherein cleaning the shallow trench isolation region reduces an amount of native oxide present along each exposed wall of the shallow trench isolation region.
- 10-11. (Cancelled)
12. (Previously Presented) The method according to claim 1, further comprising:
overfilling the shallow trench isolation region with an excess amount of the silicon dioxide during selective deposition; and
planarizing the shallow trench isolation region by removing the excess amount.
13. (Previously Presented) The method according to claim 1, further comprising:
processing the selectively deposited silicon dioxide to provide a density substantially similar to a density of thermally grown silicon dioxide.
14. (Previously Presented) The method according to claim 13, wherein processing the selectively deposited silicon dioxide further includes:
annealing the selectively deposited silicon dioxide at a temperature between approximately 800°C and approximately 1200°C.
- 15-21. (Canceled)

22. (Previously Presented) The method according to claim 6, further comprising:
forming a pad oxide layer between the pad nitride layer and the silicon-on-insulator layer.
23. (Cancelled)